Lesson 4: Why do Banks Pay YOU to Provide Their Services?

Classwork

**Example 1**

Kyra has been babysitting since 6th grade. She has saved and wants to open an account at the bank so that she will earn interest on her savings. Simple Bank pays simple interest at a rate of 10%. How much money will Kyra have after 1 year? After 2 years, if she does not add money to her account? After 5 years?

Raoul needs to start a snow cone stand for this hot summer. He borrows the money from a bank that charges 4% simple interest a year.

1. How much will he owe if he waits 1 year to pay back the loan? If he waits two years? 3 years? 4 years? 5 years?
2. Write a formula for the amount he will owe after years.

**Example 2**

Jack has to invest. The bank offers an interest rate of 6% compounded annually. How much money will Jack have after 1 year? 2 years? 5 years? 10 years?

**Example 3**

If you have to invest for 10 years, would you rather invest your money in a bank that pays 7% simple interest or 5% interest compounded annually? Is there anything you could change in the problem that would make you change your answer?

Lesson Summary

Simple Interest – Interest is calculated once per year on the original amount borrowed or invested. The interest does not become part of the amount borrowed or owed (the principal).

Compound Interest – Interest is calculated once per period on the current amount borrowed or invested. Each period, the interest becomes a part of the principal.

Problem Set

1. is invested at a bank that pays 7% simple interest. Calculate the amount of money in the account after 1 year; 3 years; 7 years; 20 years.
2. is borrowed from a bank that charges 4% interest compounded annually. How much is owed after 1 year; 3 years; 7 years; 20 years?
3. Joseph has to invest. He can go to Yankee Bank that pays 5% simple interest or Met Bank that pays 4% interest compounded annually. After how many years will Met Bank be the better choice?